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Chemistry and Physics

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I Titles and Evaluations of Soviet Papers on Physics Relating to Photography

1. "Infrared Radiation of the Night Sky and the Aurora Borealis," B A Bagaryatskii,
V I Krasovskii, and M I Mordukhovich, Doklady Akad Nauk USSR 82: 579-580, No 4,
1952. (T-2176)

This paper is well written and seemingly original, with apparently reliable results. Bagaryatskii and Mordukhovich are both new in this field, this being their first paper in the journal. Krasovskii is well experienced in the field, having published five papers since the end of 1948.

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2. "X-Ray Camera for Low Temperatures," I S Kan and B G Lazarev, J Tech Physics USSR 21: 1542-1543, No 12, 1951. (T-2180)

Originality, ingenuity, thoroughness and reliability are fair. Lazarev is an experienced low-temperature physicist. His publications date back to 1938. Kan has recently started publishing in this field.

3. "X-Ray Monochromator with Isogonic Crystal," Yu A Bagaryatskii and E V Kolontsova, Zavodskaya Laboratoriya USSR 16: 955-962, No 8, 1950. (T-2192)

The originality of this paper is poor; ingenuity, thoroughness, and reliability are average. Bagaryatskii has been working in the field several years. Kolontsova is new in the field.

4. "A Possibility for Increasing in the Depth of Modulation in the Kerr Effect," N A Tolstoi and P P Feofilov, Doklady Akad Nauk USSR 60: 219-221, No 2, 1948. (T-2238)

The specific matters treated in the article appear both valid and useful. It is doubtful that the idea of optically biasing a Kerr cell is original. Certainly its novelty, in the sense of patent law, might be questioned on the grounds that the broad idea of an "optical bias" with a quarter-wave plate is well known to those skilled in the art. We do not feel that the authors were particularly ingenious or thorough but some credit is certainly due to the first person who actually does a thing, even though what he did may seem to be both simple and "obvious". The work seems to be reliable.

5. "Elastic Stretching of Polymers," E I Barg, D M Spitkovskii, and N N Melteva, Doklady Akad Nauk USSR 84: 257-260, No 2, 1952. (T-2259)

These data are not reliable. Theory has been incorrectly compared with the data. We have no knowledge of author's experience in this field.

6. "Diffraction of X-Rays by Bent Crystals. Kinematic Theory - A Case for the Transmittance," I B Borovskii and P A Bezirganyan, Doklady Akad Nauk USSR 88: 639-642, No 4, 1953. (T-2243)

The paper shows average originality. Ingenuity, thoroughness, and reliability seem superior. Borovskii has published since 1948, but Bezirganyan appears to be a new name in the literature (Chem Abstracts).

7. "Some Data on the Atmospheric Index of Scattering of Light," E V Pyaskovskaya-Tesenkova, Doklady Akad Nauk USSR 86: 921-924, No 5, 1952. (T-2203)

The general over-all quality of this paper is very good and the subject has been covered quite well. Although no unusually high order of either originality or ingenuity has been displayed, the results and conclusions do appear to be reliable. This is the first paper which we have seen by this author.

II Titles and Evaluations of Soviet Papers on Chemistry Relating to Photography

1. "Sulfonation of Quinones," A P Terent'ev and A N Grinev, Doklady Akad Nauk USSR 81: 617-619, No 4, 1951. (T-2171)

The paper seems satisfactory but of little interest. We do not know the authors.

2. "Quantum Theory of Spectroscopic Characteristics of the Hydrogen Bond," N D Sokolov, Doklady Akad Nauk USSR 82: 369-372, No 3, 1952. (T-2181)

Superficially, this paper seems like good work. The author is not listed in the latest (1937-1946) Decennial Index to Chemical Abstracts, but he refers to two previous articles he has published, in 1947 and 1948, in this field.

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3. "The Action of Amines on Several Thiocarbocyanines Containing Alkoxy or Alkylmercapto Groups in the Meso Position," N N Sveshnikov, I I Levkoev, B S Portnaya, and E B Libshits, Doklady Akad Nauk USSR 84: 733-36, No 4, 1952. (T-2182)

The work is good, original, thorough, and reliable. Sveshnikov and Levkoev are old authors in the field.

4. "Absorption Spectra of Dibenzothiacarbocyanine Dyes in Dilute Gelatin Solution," A V Borin, Doklady Akad Nauk USSR 86: 969-972, No 5, 1952. (T-2189)

Originality is not required for this work. The experiments were arranged in a logical manner but would not require much imaginative effort. The results are limited, but the data seem reliable and convincing. The author shows a preference for Soviet references. His work has appeared since about 1935.

5. "Phenyl-Substituted Quinocyanines," G T Pilyugin and Z Ya Krainer, Doklady Akad Nauk USSR 81: 609-612, No 4, 1951. (T-2190)

The work duplicates in part work done in the US and reported 11 Apr 50 at the Spring 1950 ACS meeting. Also summarized in C and E News by Nelson Leonard, 24 Apr 50. This Soviet work was reported to the Russian Academy of Sciences 4 Oct 51, and no reference to US work was made. The work is original (if they didn't see US results first). We believe Pilyugin has published before.

6. "The Reaction of Methylene Bases of the Benzthiazole Series with Halogen Derivatives," F S Babichev and L I Kravchenko, Ukrainskii Khimicheskii Zhurnal USSR 16: 199-205, 1950. (T-2201)

The work is good so far as we can judge, and reliable and original. Babichev has worked and published with Kiprianov who has published a great deal in this field and is very good. Kravchenko is new to us.

7. "New Method of Simultaneous Micro-Determination of Fluorine, Hydrogen and Carbon in Organic Compounds," E E Gel'man and M O Korshun, Doklady Akad Nauk USSR 89: 685-687, No 4, 1953. (T-2221)

The idea of the authors to quantitatively determine fluorine by immediate "absorption" of the liberated F in MgO and the simultaneous micro-determination of C-H on the same sample is ingenious and original. If the results of the authors can be reproduced by other laboratories with as great accuracy, much time will be saved on this heretofore difficult-to-determine element, fluorine. The paper is very poor regarding thoroughness of presentation. The authors appear to be well versed in the field but no mention of their work has appeared in Chemical Abstract Indices for the past three years.

8. "Connection between the Maximum Light Sensitivity of a Photographic Emulsion, Its Corresponding Fog Density, and the Accumulation of Non-Halide Silver on Ripening," I M Ratner, Doklady Akad Nauk USSR 84: 753-755, No 4, 1952. (T-2179)

The paper is very poorly presented. Neither the objectives of the work nor the conclusions reached are made clear. The experimental data presented are very meager. We would rate the paper fair to poor in each of the categories of originality, ingenuity, thoroughness, and reliability. A cursory examination of Chemical Abstracts reveals only one other paper by this author in recent years. Apparently he is a newcomer to this field but he appears to be associated with the Chibisov-Titov group at the Doklady Akademii Nauk.

9. "Progress Made in the Field of Chemistry of Organo-Silicon Compounds," K A Andrianov and A A Zhadanov, Progress in Chemistry USSR 21: 207-236, No 2, 1952. (T-2220)

This appears to be a good article of the review type and seems to be fairly thorough. There are a great many references, mostly from the Journal of the American Chemical Society, but also Soviet and others. K A Andrianov, apparently the senior author, has published considerable work on the subject of silicones and other resins, especially their use in the electrical and insulation field, during the past 20 years or so, judging by articles under his name in Chemical Abstracts. A number of the references he quotes as to silicone chemistry are to his own experimental work. We do not find A A Zhadanov in Chemical Abstracts. Perhaps he was a student.

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10. "Investigation of the Physical Structure of Synthetic Polyamides by the Method of Vibration Spectra," N V Mikhailov, D N Shigorin, and S P Makar'eva, Doklady Akad Nauk USSR 87: 1009-1012, No 6, 1952. (T-2242)

The paper seems to be a useful, though minor, contribution. Some of the conclusions differ from those of others in the field, to whose work they refer, yet no mention is made of these differences. The authors are not very critical of their own theories and fail to make experimental tests of them, when they could and should do so. All three authors have published previously in the field of physical chemistry.

11. "Study of Residual X-Ray Strains Produced in Metals by Homogeneous Plastic Deformation. II." B N Rovinskii, J Tech Phys USSR, 21: 1325-1335, No 11, 1951. (T-2228)

Originality, ingenuity, thoroughness, and reliability are good. The author seems to have had eight or more years' experience in the field.

12. "Absorption Spectra and Luminescence of Triphenylmethane," P P Feofilov and I G Faerman, Doklady Akad Nauk USSR 87: 931-934, No 6, 1952. (T-2240)

The experiments in this report seem well conceived and competently executed. Although no details are given, the authors indicate they have available modern up-to-date equipment, such as recording photoelectric spectrophotometers. At its face value, this is quite good and original work. P P Feofilov has been active in the field of dye absorption, fluorescence, etc, since about 1940. I G Faerman appears to be a new name in the literature.

13. "Welding of Dry Collagen," G I Kutyranin, Doklady Akad Nauk USSR 82: 405-408, No 3, 1952. (T-2184)

The work described in this paper appears reliable but does not show any great originality or ingenuity. As is common with most Soviet investigators, pertinent data by other investigators are limited to Soviet investigators. The author has published many papers in the last six years, but not solely along this line of investigation.

14. "The Peculiarities of Thermal Expansion of Gels and Gelatin Solutions," R E Neiman, Doklady Akad Nauk USSR 82: 419-422, No 3, 1952. (T-2185)

No originality, but some ingenuity in handling the data is shown in this paper. His conclusions are not in harmony with accepted theories. The author is experienced in the field. All references are to Soviet authors, all other investigations being ignored.

15. "Continuous Sulfonation of Benzene," A N Planovskii and S Z Kagan, Promyshlennost Organicheskoi Khimii (USSR) 7: 296-304, 1940. (T-2212)

Since we are not experts on the subject of sulfonation, it is difficult to evaluate the article by Planovskii and Kagan. It contains a far more extensive theoretical study of the problem than any other found so far. Apparently the authors are acquainted only with the pilot plant operations and are fairly new to the field. The article makes no pretense to show knowledge of actual plant operations.

16. "Electrophoretic Determination of Protein Fractions on Paper," A P Vishnyakov, D S Dobrovolskii, N V Ermakov and S E Tkachinski, Doklady Akad Nauk USSR 87: 1035-1038, No 6, 1952. (T-2241)

This paper gives a fairly good review of the subject, including numerous important papers by investigators throughout the world. Little originality and some ingenuity are shown; only meager data are given. The authors, so far as we can ascertain, are inexperienced in this field.

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17. "Spectrophotometry of Biuret Complexes as a Method of Studying Albumins and Peptides. XV. Use of the Biuret Reaction with Nickel in a Study of the Hydrolysis of Gelatin," M I Flekhan and E N Voluiskaya, Zhurnal Obshch Khim 22: 2168-2180, No 12, 1952. (T-2263)

This work is a continuation of earlier studies, the methods used previously being employed in this study. The work appears reasonably thorough and reliable. Only references to the existing literature are Soviet. The author is experienced in this field.

18. "Thermal Capacity and Structure of Silicate Glasses," V V Tarasov and Ya S Savitskaya, Doklady Akad Nauk USSR 88: 1019-22, No 6, 1953. (T-2272)

The fundamental ideas, although not very erudite, seem to be sound. The experimental work, though not extensive, is all right, as far as we can tell from the paper. The authors' concept of the structure of glasses, which they present as their own, is essentially the same as (though less detailed than) one published in 1940 by a US scientist, yet no mention is made of this work, nor of any other non-Soviet work in this field. The senior author (Tarasov) refers to several earlier papers of his in this field, dating from 1945. The junior author apparently received his doctorate in 1952. "A F Ioffe", who is thanked for his interest and help in this work, is, we believe, the head of the Institute, a very able and ingenious scientist.

19. "Amperometric Titration of Organic Development Agents by Means of a Revolving Platinum Microelectrode," S G Bogdanov and N S Sukhobokova, Zh Analiticheskoi Khim USSR 6: 344-347, No 6, 1951. (T-2274)

This paper reports a routine-type investigation with no particular originality. The work appears to be of reasonable accuracy, but restricted to a very limited range of concentrations of most of the developing agents used. We know of only one other paper by Bogdanov and none by Sukhobokova.

20. "Thermal Decomposition of Potassium and Sodium," V A Shushunov and A M Pavlov, Doklady Akad Nauk USSR 89: 1033-6, No 6, 1953. (T-2261)

This paper rates low in originality since extensive prior studies have been made in this special field. The authors may be unaware of this work or have chosen to make no reference to it. The paper rates average in ingenuity, thoroughness and reliability. The senior author is experienced in this field of kinetics of solid-gas systems. We can find only one previous publication by the junior author, which is in the field of organic synthesis.

21. "Photoluminescence of Sublimate Phosphor of Silver Iodide," K V Shalimova and N S Mendakov, Doklady Akad Nauk USSR 82: 575-578, No 4, 1952. (T-2183)

Shalimova has published on this subject before, but we do not believe he has worked more than a few years in this field. His work does show originality and ingenuity. The interpretation he offers for his observations seems rather wild and cannot be considered as established without much additional work.

III Titles and Evaluations of Soviet Papers in the Field of Photography

1. "Topochemical Transformations During Ripening and Finishing of Photographic Emulsions," K V Chibisov and A A Mikhailova, Trans Kino-Foto Scientific Research Institute USSR, No 8, 75-94, 1947 (Printed in 1948). (T-2177)

Chibisov and Mikhailova have published extensively in this field. However, we view their microchemical analyses of emulsions with suspicion, since it has not been possible to repeat them in our laboratories.

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2. "Finishing Silver and the Formation of Fog," K V Chibisov and A A Titov, Trans Kino-Foto Scientific Research Institute USSR, No 8, 95-104, 1947 (Printed in 1948). (T-2178)

Chibisov and Titov have published extensively for years on topics in this field. They over-emphasize the importance of finishing silver as a component of chemical sensitizing and underestimate the importance of sulfur sensitizing in this and other publications, but the work reported here appears to be quite thorough and reliable.

3. "New Data on the Nature of Photographic Sensitivity (Communication 101)," K V Chibisov and A A Titov, Trans Kino-Foto Scientific Research Institute USSR, No 8, 115-125, 1947 (Printed in 1948). (T-2194)

These are experienced workers but their results must be regarded with caution, since it has not been demonstrated in our laboratories that their analytical methods are accurate.

4. "Effect of the Topography of Sensitivity Centers upon the Photographic Properties of an Emulsion (Communication 101)," K V Chibisov, A A Titov, and A A Mikhailova, Trans Kino-Foto Scientific Research Institute USSR, No 8, 105-114, 1947 (Printed in 1948). (T-2195)

These are experienced workers, but their results must be regarded with caution since it has not been demonstrated in our laboratories that their analytical methods are accurate.

5. "Rotating Wedge Used for the Optical Compensation of the Continuous Movement of the Film," N A Valyus, Trans Kino-Foto Scientific Research Institute USSR, No 10, 77-78, 1947 (Printed in 1949). (T-2196)

This work is very sketchy with no quantitative data. This is a rather unique idea but we suspect its limitations more than offset its advantages.

6. "New Principle of Frameless Motion Picture Reproduction," N A Valyus, Trans Kino-Foto Scientific Research Institute USSR, No 10, 107-109, 1947 (Printed in 1949). (T-2197)

Apparently the author has been in the field for some time (1938). This, like others of his so-called "inventions", appears theoretically sound but impractical for a number of reasons. He gives no quantitative data, and appears to be interested in making a disclosure and claiming credit for it and hoping that someone else will work out the practical aspects. Substantially, the same system has been used in this country in recent years for high-speed photography.

7. "Properties of Photographic Emulsions with Intermittent Exposures," A L Kartuzhanskii and P V Meiklyar, J Exp and Theoret Physics 21: 598-609, No 5, 1951. (T-2175)

These workers have obtained what appear to be nice experimental results on intermittency effect, but it appears almost certain that they have given a wrong interpretation of their results. If interpreted properly, the results obtained would agree with those obtained by previous workers. These workers apparently are new in the field of intermittency effects, and no doubt they will later come to a proper interpretation of their results. The experimental work seems to have been carried out with reasonable care and accuracy. The work presented shows little ingenuity, being largely a repetition of the same type work carried out by a number of earlier workers in the field.

8. "Properties of the Photographic Emulsions at Different Temperatures," A L Kartuzhanskii and P V Meiklyar, J Exp and Theoret Physics 21: 693-700, No 6, 1951. (T-2188)

This work shows no special ingenuity or originality. It is largely a repetition of work carried out by previous workers. A few new experiments were included, but they add very little. The authors carried out their experiments with considerable care, and the experimental results appear to be correct. However, the interpretation of the results, in some cases, is open to question. The authors have done previous work in photographic research, but this appears to be one of their first jobs on effects of temperature variation.

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9. "Role of Alkali in Color Development," G P Faerman and N N Shishkina, J Physical Chemistry (USSR) 25: 1026-1032, No 9, 1951. (T-2217)

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We do not feel this work is worthy of publication. Originality and ingenuity are nil. It is the sort of work that might be done to establish control of processing of a given color material, but it is certainly no basis for a publication of any sort. The authors have apparently published several prior papers in the photographic field, but we are not familiar with the quality of these.

10. "Dependence of Photographic Properties of Emulsion upon the Conditions of Recrystallization Process," K V Chibisov and I M Ratner, Doklady Akad Nauk (USSR) 90: 71-73, No 1, 1953. (T-2218)

This is a routine study of photographic sensitivity as influenced by the bromide ion concentration during precipitation. The results are interesting enough, much as to be expected, and the work is probably reliable. The theoretical analysis is very questionable. The authors draw an important conclusion, which has no real foundation in their data (attributing effects of bromide ion on finishing to production of internal image) but which could have been confirmed by simple experiments. One would guess that this conclusion is at least as likely to be wrong as correct. The senior author, Chibisov, is an old hand at this type of study. The name of Ratner first appears in Chemical Abstracts in 1952.

11. "Yield of Dyes During Color Development," S A Bongard, A N Iordanskii, V S Cheltsov, Doklady Akad Nauk (USSR) 84: 81-84, No 1, 1952. (T-2223)

One of the authors, Iordanskii, has worked extensively in the color developer field. This publication, like most of his earlier ones, contributes very little, if any, to existing knowledge. All it does is add some more evidence to the already well-established stoichiometric relationships of dye formation by color development. Like all of the earlier papers by this author, this one is woefully inadequate in that most of the experimental details are missing, so the reliability of the conclusions cannot be assessed. Specifically, the conclusions in this paper are based on a molar dye-to-silver ratio, which can be determined only if the pure dyes are at hand for calibration purposes. Nowhere in the paper is mention made of the pure dyes and their characteristics.

12. "Investigations in the Field of Physico-Chemical Processes for Obtaining Color Photographic Images," A M Brusilovskii, Trans Leningrad Inst Mot Pict Eng, No 2, 125-136, 1949. (T-2222)

There doesn't seem to be anything particularly new in his preparations, although we haven't made a detailed study. We are not familiar with the author.

13. "Resolving Power of Photographic Emulsions for Electron Beams," N G Sushkin and E N Vtorov, Izvestiya Akad Nauk USSR, Ser Fiz 15: 403-409, 1951. (T-2233)

This work deals with an important question, both from a theoretical and practical standpoint, upon which there is very little literature of any merit. It shows considerable originality and ingenuity. One very basic experimental consideration is completely ignored in the report and would make the results absolutely unreliable if no adequate provisions were made to eliminate this variable. Except for this factor, the work is reasonably, though not extraordinarily, thorough. We should say the authors were more experienced in the field of the physics of the photographic image than in electron microscopy, though they seem to exhibit an adequate familiarity with the operational features and the literature on the microscope.

14. "Electron Sensitometry," N G Sushkin, I A Kovner, E N Vtorov, Izvestiya Akad Nauk USSR, Ser Fiz, 15: 395-402, No 4, 1951. (T-2232)

The over-all quality of this work appears to be satisfactory. It is a straightforward job and involved no particular ingenuity since many other people have made similar measurements of electron sensitivity of emulsions. The results agree in general with those obtained by previous workers. The work was carried out on a regular electron microscope and required only familiarity with the operation of this instrument. Presumably the authors have had previous experience on the electron microscope.

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15. "Formation of Internal Centers as a Result of the Finishing Process of Photographic Emulsions," K V Chitsov and I M Ratner, Dok Akad Nauk USSR 89: 329-332, No 2, 1953. (T-2213)

The paper contains interesting observations on sensitization by hydrazine, thiosulfate, and sodium sulfide of a routine nature and a considerable welter of unsupported speculation. The senior author, Chibisov, has long worked in this field. The junior author appears to be a new man, who has been fairly active since 1951.

16. "Relation between Separate Stages of the Photographic Process," Ts S Arnol'd, Dok Akad Nauk USSR 88: 289-291, No 2, 1953. (T-2237)

This hypothesis is original and ingenious, but neither thorough nor reliable. Ts S Arnol'd's proposed unified model of finishing, exposure, and development breaks down on comparison with numerous types of emulsions. Arnol'd is a comparative newcomer in photographic investigation. He has published only one other paper (1951, with Titov) according to Chemical Abstracts.

17. "Role of the Labile Sulfur Compounds in the Ripening of Photographic Emulsions," Ferenc Evva and Oszkar Sziman, Magyar Kemiai Polyoirat 59: 97-99, 1953. (T-2258)

This work attempts to demonstrate that no connection exists between the content of labile sulfur in gelatins and coagulation ripening in chloride emulsions. The attempt suffers from the fact that no good test for labile sulfur really exists. It is shown that different thiourea derivatives behave quite differently with respect to coagulation ripening, and this is not at all surprising. However, it does not really prove much of fundamental value. F Evva has published other papers (1951, 1952) in this field, but Sziman has not (Chemical Abstracts).

18. "New Methods for the Determination of Active Agents in Photographic Gelatin," Ferenc Evva, Magyar Kemiai Polyoirat 58: 43-48, Feb, 1953. (T-2235)

This appears to be a useful discussion of methods for determining the presence of active sulfur (Feigl's reagent), reducers (Steigmann's method with thiobarbituric acid) and restraining agents (the Amman-Brass nephelometric method). Whether the methods themselves have much meaning in terms of emulsion behavior is an unsettled question, however, F Evva has published other papers (1951, 1952) in this general field (Chemical Abstracts).

19. "The Role of Potassium Iodide in Photographic Emulsions," M I Shor, Trans Leningrad Inst Mot Pict Eng, No 2, 112-124, 1949. (T-2244)

This work appears to be reliable and reasonably thorough. It has no particular originality, being simply a study of the various sensitometric effects observed on adding iodide to paper emulsions. The results obtained are merely suggestive of what would be observed in emulsions of different types from the ones used here. M I Shor has apparently not published before in this or any other field (Chemical Abstracts listings).

20. "Speeds of Reaction of a Relation between the Photographic Emulsion to Short-Exposure and to Electrons," A L Kartuzhanskii, J Exp Phys USSR 22: 768-774, No 6, 1952. (T-2254)

The work described in this report appears to be of fair quality. The nature of the work required little ingenuity. It is done with reasonable thoroughness and can be presumed to be reliable. The author has undoubtedly been in this field of work for several years.

21. "Antihalogen Protection of Photographic Emulsions," M Mudrovic, Arhiv za Kemijski 22: 243-257, 1950. (T-2257)

The author has been working on photography for some time at Zagreb. This is one of the review papers which he writes at intervals, and is typical--a thorough, rather uncritical survey of the patent literature.

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22. "The Resolving Power of Photographic Emulsions and of the Eye at Low Contrast," G A Istomin, Doklady Akad. Nauk, USSR 84: 273-275, No 2, 1952. (T-2260)

This is the second paper we have had translated by this author, both in 1952, none earlier. The work is indifferent, and this is poorer than the first. There are no references to Western work except one that came from a Soviet reference, and no references to French work of the past ten years on the same subject are given. The work parallels work reported by Altman and Perrin in recent Journal of the Optical Society of America.

23. "The Unique Nature of Sensitization and Desensitization of Photographic Emulsions," K V Chibisov, A A Mikhailova, and B G Varshaver, Doklady Akad Nauk USSR 88: 519-522, No 3, 1953. (T-2270)

Chibisov is well known in his field and did good work in the past. Lately his work has been repetitious, and the experimental results seem dubious since he is determined to establish his theory. The present paper is not included in that category, but is neither particularly ingenious nor very original.

24. "Calculation of Processes of Wet Treatment of Motion Picture Film," I B Blyumberg, Trudy Leningradskogo Kinoinzhenerov (Trans Leningrad Inst Mot Pict Eng), No 2, 90-98, 1949. (T-2234)

The author gets rather too involved to be of much value to the working engineer. We do not know the author.

25. "The Form of Iso-Opacity of the Photographic Emulsion," P V Meiklyar, Doklady Akad Nauk USSR 85: 1255-1258, No 6, 1952. (T-2268)

The paper shows slight originality and very little ingenuity. It is largely a theoretical model to account for reciprocity law failure at low and high intensities. The mechanism given for low intensity is probably all right but it is not new. Very little experimental data are given to test theory. The work is not very thorough. The author is experienced in this field.

26. "Computation of the Concentration of Solution Flowing Counter-currently Through a Series of Tanks," A B Gur-Mil'ner, Trans Leningrad Inst of Motion Pict Eng, No 2, 99-111, 1949. (T-2245)

This approach is so detailed and mathematically involved that we question whether it will be of value to any worker on the problem, although we would not question the originality. Originality, ingenuity, thoroughness, and reliability seem satisfactory.

27. "Absorption Spectrum of Internal Specks in Lippmann Emulsion Grains," E A Kirillov and E A Nesterovskaya, Doklady Akad Nauk USSR 88: 495-498, No 3, 1953. (T-2259)

The paper is an original contribution to photographic theory, and a rather ingenious method is used. There is no way to check the reliability, but the accuracy claimed is very satisfactory. One of the authors, Kirillov, has worked in the field of photographic science for at least twenty years.

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